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RESEARCH ARTICLE

HEALTH STATUS OF PARTICULARLY VULNERABLE TRIBAL GROUPS OF KARNATAKA, INDIA:A CRITICAL OUTLOOK.

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Abstract

In India, tribal communities in general and Particularly Vulnerable Tribal Groups (PVTGs) in particular are considered most vulnerable, marginalised and disadvantaged groups both in terms of socioeconomic, education and health development. They are also more prone to ill-health conditions and diseases. The historical neglect of the tribal groups is considered a major cause behind the marginalisation of many tribal communities in India both within colonial regimes and after. As various plans and developmental initiatives implemented, it has not changed the lives of primitive tribes as evident from the existing vulnerability among the PVTGs. On the above background the present paper broadly looks into the health status of scheduled tribes in general and PVTGs of Karnataka in particular. It also covers the major determining factors to the increased disease burden and the availability of health care infrastructure facilities in and around the tribal areas in Karnataka.

Introduction:

India has as many as 705 different ethnic groups, which are notified as Scheduled Tribes (STs) and out of which 75 indigenous groups have been identified as Particularly Vulnerable Tribal Groups (PVTGs) on the basis of isolated habitation, low level of literacy, pre-agricultural level of technology and stagnating population. The primitive tribal groups or particularly vulnerable tribal groups in India are considered vulnerable, marginalised, disadvantaged and backward groups both socio-economically, educationally and politically. They are also more prone to ill-health conditions and diseases. Despite various developmental initiatives, health programmes and huge budget allocated for all round development of PVTGs, it has not percolated the lives of primitive tribal's as evident from the existing vulnerability among the PVTGs.

Karnataka has an interesting mix of indigenous and migrant ethnic groups. According to 2011 census, Karnataka is the homeland of 50 Scheduled Tribes (STs) with a population of 42, 48,987. Out of which 2 ethno-cultural vulnerable tribal groups (Jenu Kuruba and Koraga) are identified as Primitive Vulnerable Tribal Groups (PVTGs) with a population of 50,870. Of the 6,10,95,297 persons enumerated in the State, the scheduled tribes constitute around 6.95 per cent (3.46 million) of the total state population and 4.11 per cent of the total tribal population of the country. Majority of the STs 80.72 per cent live in rural villages and relatively inaccessible areas of the State. In spite of tremendous advancement in the field of preventive and curative medicine, many times PVTGs doesn't have

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much access to public health care facilities and suffer from ill-health conditions. It is mainly due to extreme poverty, illiteracy, malnutrition, absence of safe drinking water, poor hygiene and sanitary, poor maternal and child health care facilities or lacking in terms of infrastructure and poor perceived health seeking behaviour etc., are the major possible contributing factors of dismal health condition prevailing among the particularly vulnerable tribal groups. The infant, child mortality and under five mortality rates (U5MR) in rural Karnataka (including PVTG areas) continues to be at a very high level (in-spite of their decline) compared to the mainstream population. Hence, there is an urgent need for area specific, tribal specific health programmes in order to achieve the goal of health for all.

In Karnataka, Jenu Kuruba and Koraga are regarded as the original inhabitants of this land. They are the only two identified primitive Tribes of Karnataka State. The Government of India recognized them as particularly vulnerable tribal groups (PVTGs). *Jenu Kurubas* are the original residents of the forest regions of the Western Ghats and also other places of South India. In Kannada language, the term '*Jenu*' signifies 'honey' and '*Kuruba*' stands for 'Caste'. Therefore, their name suggests that the Jenu Kuruba tribes have adopted the profession of honey gathering. Narrating the history of Kurubas, Thurston (1909) notes, "The *Kurumba* or *Kuruba* are the modern representatives of the ancient *Kuruba* or *Pallavas*". They occupy the plateau and hilly areas, having moderate climate, low humidity, medium rainfall and thin forest areas of Mysore and Kodagu districts. They have their own dialect known as '*Jenu Nudi*' and follows the Kannada script and speak with outsiders in Kannada. In Mysore these *Kuruba* are divided into *Uru Kuruba* and *Kadu Kuruba*. *Kadu Kuruba* is further divided into *Jenu Kuruba* and *Betta Kuruba*. Though, honey collection is their traditional occupation, few engaged in agriculture and the majority of them are daily wage seekers. As per the census 2011, their total population was 36,076. Out of total population males constitute 49.75 per cent and 50.25 per cent females. More than 70 per cent of Jenu Kuruba population is found mainly in H.D Kote and Hunsurtaluka rural areas. As per census 2011, the sex ration of the Jenu Kuruba (1010 females per 1000 males) population is comparatively higher than the State (968). About 86.1 per cent are main workers and remaining are marginal workers (13.9 per cent) with a total worker participation rate of 58.2 per cent.

The Koraga are the aboriginal tribal group in Karnataka. They found mainly in Dakshina Kannada and Udapi districts of Karnataka and the Kasaragod district of Kerala, South India. The Koragas are considered as one of the most vulnerable, marginalised, disadvantaged and backward groups among all the scheduled tribes in Karnataka. In 1986, they have notified as primitive tribes and later identified as PVTGs. The term '*Kora*' refers to the 'Sun' and it may have originated from their conventional worship of the sun. Koragas have distinct and unique folk culture, tradition and language. They are emotionally attached to the forest and believe it as their god. Earlier, majority of them earn their living by basket making, coir making, which has been their traditional occupation and source of livelihood. But now the majority of them are working as *Safai Karmachari* (manual sweeping, collection of disposal of municipal solid waste, commonly known as '*Poura Karmika'*) in various Town/village Panchayats, town municipalities and city corporations. Nearly 90 percent of Koraga families lack agricultural lands despite the government's decision to allot 2.5 acres of each Koraga family in Dakshin Kannada and Udupi districts. The improvement in housing was also found to be not significant in tribal area.

As per 2011 census, the total population of the Koraga tribe in Karnataka state is 14,794. Out of which 48.74 per cent were males against 51.26 per cent of females. The sex ration of Koraga population (1052 females per 1000 males) was comparatively higher than the State (968) average. About 88.3 per cent are main workers and remaining are marginal workers (11.7) with a total worker participation rate of 52.7 per cent.

Table 1: Category-wise distribution of PVTG population in Karnataka

Name of the PVTG	Total/ Rural/ Urban	Total Population	Total Males	Total Females
Jenu Kuruba	**Total**	**36076**	**17948**	**18128**
	Rural	35136	17451	17685
	Urban	940	497	443
Koraga	**Total**	**14794**	**7210**	**7584**
	Rural	9693	4744	4949
	Urban	5101	2466	2635
TOTAL		**50870**	**25158**	**25712**

(Source: Census India, 2011)

Objectives:

The present paper focuses to understand the broad objectives as mentioned below are;

1. To understand the health status of Schedule Tribe in general and PVTGs (Jenu Kuruba and Koraga) of Karnataka in particular.
2. To know the availability of health care infrastructure facilities in and around the primitive tribal areas
3. To analyse and suggest area specific, tribal specific approaches to strengthen the public health care system and infrastructure.

Materials and Methods:

The present study is descriptive in nature, both qualitative and quantitative methods have been used to analyse the data. The data sources, by and large are from secondary sources and to a limited extent from primary sources. The secondary data obtained from journals, books and periodicals. The census 2011 data in respect of several demographic indicators and various health reports viz., NFHS-4, Rural Health Statistics in respect of health indicators and existing health care infrastructure in tribal areas have been used.

Problems and Challenges of PVTGs:

Although medical anthropology made an outstanding achievement in understanding the crux of the tribal health problems and formulating tribal health programmes. But, still there is a paucity of comprehensive and holistic health research among the tribal populations, especially in primitive or particularly vulnerable tribal groups is the need. These groups are historically much vulnerable as evident from the development parameters like extreme poverty, lower literacy, and health indicators etc., and thus always considered most marginalized section groups compared to the other groups in the society. The primitive tribal groups in Karnataka vary among themselves in term of socio-cultural compositions, techno-economic and health parameters. Unlike other tribal groups, the PVTGs settled in remote hamlets '*haadi*' or '*hatti'* in hilly, almost inaccessible forest areas where poverty, illiteracy, malnutrition, wide spread of communicable and non-communication diseases, inadequate access to potable drinking water and lack of personal health, hygiene and sanitation issues makes them more vulnerable and susceptible to chronic illnesses and diseases. Not surprisingly, tribal people suffer from illnesses of greater severity and duration, with women and children being the most vulnerable. The utter mentioning of tribal deprivation is child mortality, with under-five mortality rates among rural tribal children remaining startlingly high, at about 100 deaths per 1,000 live births in 2005 compared with 82 among all children. Jenu Kuruba tribal children are suffering from anaemia and varying grades of PEM. (Narayanappa et. al., 2015). The decline or stagnant population in Koraga tribe is not only due to pressure of family planning exerted by the government agencies, but also due to nutritional deficiencies and health related problems viz., communicable and non-communicable diseases continue to haunt the tribal areas even after so many years of independence.

Tribal communities in general and primitive tribal groups in particular are highly disease prone. Also, they have not required access to basic health care facilities. They are most exploited, neglected, and highly vulnerable to diseases with a high degree of malnutrition, morbidity and mortality (Balgir, 2004). The PVTGs doesn't have much access to health care facilities in and around. Though there are primary health centres, its services are very limited and not easily reachable. Advanced checkups and treatments are not available and affordable to majority of Koragas (Nalinam, 2013).

The below identified some major contributing factors to the increased disease burden among the PVTGs are-

1. High Poverty and Below Poverty Line (BPL) standard of living
2. Food insecurity
3. High Level of illiteracy and High Drop-out Rates
4. High prevalence of malnutrition-stunting and underweight especially among school children
5. Lack of safe drinking water supply
6. Poor hygiene and sanitation
7. High prevalence and wide spread of communicable, tropical diseases like malaria, parasites and genetic diseases
8. High fertility rates and low institutional delivery rates
9. Inadequate health care facilities, lack of infrastructure, personnel, required drug supply, exploitation and discriminatory behaviour of health care providers towards tribals
10. Social barriers preventing utilization of health care services, Poor health seeking behaviour
11. High levels of unemployment that results in migration

Although over the years, the availability of health care facilities has improved substantially in Karnataka State in general and tribal areas in particular. However, the situation of access to better health care services by the tribals is worst. They mainly are facing serious problems such as poverty, malnutrition, communicable and non-communicable diseases, lack of basic health care facilities, morbidity leading to mortality together with deforestation, exploitation result in depopulation of the particularly vulnerable tribal groups in Karnataka.

Tribal Health Culture:

Health is cherished as highly valued resource and a goal that every human being aspires for in order to perform his role effectively and efficiently in the society. Health care is the primary necessity of every society and is directly linked with the health of the people. Development of People depends on their good health and it is a new challenge on which further development depends, because health and socially aware people are the nation's most important assets (Dharanaik, et.al., 2008). Health care is one of the most important of all human endeavours to improve the quality of life, especially of the tribal people (Balgir, 1997; 2005a). The common beliefs, customs, traditions, values and practices connected with health, illness and disease have been closely associated with the treatment of diseases. In most of tribal communities, there is a wealth of folklore associated with health beliefs. Knowledge of folklore of different socio-cultural systems of the tribes may have a positive impact, which could provide the model for appropriate health and sanitary practices in a given eco-system. The health culture of a community does not change so easily with changes in the access to various health services (Balgir, 2004a).

Health is one of the serious problems among the Jenu Kuruba and Koraga tribal groups. The commonly reported ailments are malaria, pneumonia, respiratory disorders, diarrhoea and fever, snake and scorpion bites, skin diseases, tuberculosis, depression and psychiatric disorders. These groups have lower levels of antenatal care, institutional deliveries, lower levels of immunization and higher prevalence of reproductive tract infections (RTIs) and Sexually Transmitted Infections (STIs) including HIV/AIDS. While Governments norms for the provision of health care facilities were found to have been met, accessibility continued to be poor. Koragas have their own traditional means of diagnosis and cure. A good number of them fall a pray to such diseases.

Socio-Cultural Determinants of Tribal Health:

Several studies have highlighted socio-cultural issues pose major hurdle in tribal health and health care. It is obvious that the socio-cultural aspects of a tribal community determine the health seeking behaviour. Isolated from the mainstream population and culture, their technological, economic, social, political and educational backwardness in comparison to non-tribals, their own belief system among tribal society are some of the major problems for the steady growth of tribal development. The sex-ratio (females per thousand males) reflects the status of socio-cultural, maternal and child health care programmes existing in the population. As per 2011 Census, the average sex ratio of the Jenu Kuruba and Koraga tribal population was 1010 and 1052 respectively, which is comparatively higher than the State average of 973 females per 1000 males. Literacy is also important, especially for young girls because it had correlations with her decision making and survival of her children. Infant mortality is found to decrease significantly when the mother is educated up to the primary level and above.

Literacy Rate:

Literacy is one of the significant instruments of social change and development. The level of literacy is undoubtedly one of the most important indicators of social, cultural, economic and health development of any nation especially tribal groups. The literacy rate of STs in Karnataka is a cause for concern, as it has consistently been lower than that of the general population. The literacy rate among scheduled tribes, which was 48.3 per cent in 2001, increased to 62.1 per cent in 2011, while the State average moved up from 66.6 to 75.4 per cent. Despite various programmes for universalization of primary education, compulsory education etc., although the drop-out rates have been showing a declining trend amongst scheduled tribes still 13.3 per cent gap is observed compared with the state literacy rate (Table 2).

Table 2: Karnataka State Comparative Literacy Rates of STs and Total Population from 1991 to 2011

(Figure in per cent)

Category/ Census Year	1991	2001	2011
Total Population	56	66.6	75.4
Scheduled Tribes	36	48.3	62.1
Gap	20	18.4	13.3

(Source: Registrar General of India, Census 2011)

Table 3: Percentage of Literacy Rates (Total/Male/Female) among PVTGs (Figure in per cent)

Name of the PVTG	Literacy		
	Total	Males	Females
Jenu Kuruba	56.1	59.1	53.1
Koraga	72.7	77.9	67.8

(Source: Registrar General of India, Census 2011)

The total literacy rate among Jenu Kuruba and Koraga tribe is 56.1 per cent and 72.7 per cent respectively. The male literacy rate stands at 59.1 per cent among Jenu Kuruba and 77.9 per cent among Koraga tribe. The female literacy is 53.1 per cent and 67.8 per cent among Jenu Kuruba and Koraga tribes respectively. The literacy among the *Jenu Kuruba* especially, female literacy (53.1 per cent) was very low compared to other tribal groups in Karnataka (Statistical Profile of Scheduled Tribes in India, 2013). However, the Jenu Kuruba tribe has been exposed to literacy very recently. In spite of some positive changes taking place in the educational level of PVTGs in Karnataka. Most of the literates among the *Jenu Kuruba* tribe were literate only up to the primary level. By and large, their response to programmes of literacy and formal education is significantly depending on socio-economic, distance of the school and availability of other basic infrastructure development.

Health Indicators:

The primitive or particularly vulnerable tribal groups in India have far worse health indicators than that of the general population. The NFHS-I, II, III data shows trends of deteriorating health indicators and socio-economic status of the tribal population in comparison to national statistics. Health and nutritional status of the tribal population is reflected by some of the key health indicators these can serve as crucial inputs for policy makers and administrators.

Some of the health indicators of Mysore district as indicated in the National Rural Health Mission (NRHM) Karnataka Programme Implementation Plan (2009-10) are as follows: institutional delivery rate of 93%, IMR of 18 and MMR of 213 per 100,000 live births, 85% of women registered in their first trimester of pregnancy and 92% had at least 3 antenatal care visits during their last pregnancy (the figures for rural and urban areas being 82% and 93% respectively). Data specific to the tribal population was not provided in NFHS-4, 2015-16.

The National Family Health Survey (NFHS-4), 2015-16 findings of Karnataka State show promising improvements in maternal and child health and nutrition. Some of the selected key health indicators show below:

Table 4: Selected Key Health Indicators in Karnataka

Health Indicator	NFHS-4 (2015-16)			NFHS-4 (2005-06)
	Urban	Rural	Total	Total
Infant Mortality Rate (IMR)	19	34	28	43
Under 5 Mortality Rate (U5MR)	23	39	32	54
Mothers who had full Antenatal Care (ANC)	34.9	31.5	32.9	24.8
Institutional Births (%)	95.4	93.5	94.3	64.7
Institutional Births in public facility (%)	50.2	68.9	61.4	34.8
Births assisted by a doctor/nurse/ LHV/ANM/other health personnel (%)	92.8	94.6	93.9	69.7
Total Fertility Rate (TFR)	1.7	1.9	1.8	2.1
Children age 12-23 months fully immunized (BCG, measles & 3 doses each of polio & DPT) %	59.8	64.8	62.6	55.0
Children age 6-59 months who are anaemic (<11.0 g/dl) (%)	57.2	63.4	60.9	70.3
Non-pregnant women aged 15-49 yrs. who are anaemic (<12.0 g/dl) (%)	43.0	46.1	44.8	50.8
Pregnant women aged 15-49 yrs. who are anaemic (<11.0 g/dl) (%)	39.6	48.7	45.4	60.4
All women age 15-49 yrs. who are anaemic (<11.0 g/dl) (%)	43.0	46.2	44.8	51.2

(Source:NFHS-4, 2015-16, Government of India)

Infant Mortality Rate (IMR):
The Infant mortality rate (IMR) is lower in Karnataka than in the nation as a whole. The IMR in rural areas of Karnataka is estimated at 34 and in urban 19 deaths before the age of one year per 1,000 live births (NFHS, 2015-16). The Scheduled Tribe (ST) population in Karnataka has much higher IMR as compared to the Non-Scheduled Tribes. The level of infant and child mortality is high among the Scheduled Tribes, particularly those living in rural and forest areas. Over the past decades, significant change was observed in infant and child mortality among general as well as vulnerable groups, including PVTGs due to effective implementation of NRHM programme's coverage in rural areas. Further, there is a dire need to address the factors that are likely to put them at risk in terms of infant and child mortality in vulnerable tribal areas.

Maternal Mortality Rate (MMR):
The State Karnataka continues to rule the roost as far as Maternal Mortality Rate (MMR) is concerned, in entire South India. Karnataka registered 178 maternal deaths against 212 for all India (SRS, 2007-09). This has been attributed by the experts to lack of human resource and minimal awareness of the need for institutional delivery, coupled with anaemia and late referrals. Though the government has been providing folic acid and other supplements to girls, anaemia continues to be the leading cause of maternal deaths.

Nutritional Status:
The nutrition of adolescent girls, pregnant and lactating women bear a direct relationship with the nutrition of the child. Malnutrition is still high and the numbers of malnourished children in tribal are more compared to other mainstream population. India accounts for 50 per cent of the world's undernourished children, says a joint study by Associated Chambers of Commerce and Industry of India (ASSOCHAM) and Ernst & Young (EY). The 2018 Global Nutrition Report reveals that a third of the world's stunted children are also Indian. The country has the highest number of wasted children, and also figures among nations that have more than a million overweight children**.**

In India, the percentage of ST children underweight has reduced from 54 per cent in NFHS-3 (2005-06) to 42 per cent in NFHS-4 (2015-16). However, compared to other social groups, tribal children continue to be the most malnourished. The prevalence of underweight is almost one and half times in tribal children than in the 'other' caste. In Karnataka as per NFHS-4 (2015-16) reports 63.4 per cent of rural children between the age-group of 6-59 years are anemic. Health and nutritional status of Jenu Kuruba tribal children in Mysore district are suffering from varying grades of PEM similar to several other studies done in different parts of India. The prevalence of anemia among tribal women aged 14-49 years in Udupi Taluk of Udupi District was 55.9 per cent (Kamath R. and et al., 2013). The prevalence of anemia among Jenu Kuruba children was 77.1 per cent (Jai Prabhakar et. al., 2009).

Institutional Deliveries:
Earlier most of the primitive tribal women were unaware of Government-run public health facilities and about institutional delivery. The majority of them were depending on local birth attendees. The NFHS-3 (2005-06) data reveals that only 17.7 per cent institutional deliveries among STs. However, with the advent of NRHM and introduction of ASHAs in the inaccessible villages has brought a lot of changes in maternal and child health issues. Now, a significant improvement in institutional deliveries (77 per cent) among Koraga women is reported. Typically, pregnant women or sick persons from remote tribal hamlets are unable to make it to health facilities in time for institutional deliveries or emergency medical care for want of easily available and affordable transportation. Blood Bank facilities are also not in reach of tribal areas. Realizing this the state government in partnership with local NGOs and CBOs organizing medical outreach camps and providing free screening and treatment services. Through outreach health camps and Mobile Health Clinics these tribal women are getting ANC and PNC service at their doorstep. However, there are few instances due to inaccessibility or non-availability of timely ambulance services some of the deliveries still take place in the home. In spite of various efforts of the Government, the PVTGs continue to suffer from poor maternal and child health care services. Many tribal women are experiencing complications during childbirth- with no assurances that their baby will survive.

Women's Health:
Not surprisingly, tribal people suffer illnesses of greater severity and duration, with women and children being the most vulnerable. The poor status of women's health, the declining gender ratio and universal access to public health services such as Women's health are areas of concern in tribal areas. Tribal women face various health problems viz., malaria, pneumonia, respiratory disorders, diarrhoea, dysentery, fever, malnutrition, induced abortion. Research

and data available through surveys have also found that Anaemia has also declined, but still remains widespread among PVTGs women and adolescent girls. Sexually Transmitted Infections (STIs)including HIV/AIDS are also highly prevalent infections in tribal areas are concerned. The VDRL and HIV were found to be positive among sexually active and high risk groups among the tribal groups. While governments' norms for the provision of health care facilities were found to have been met, accessibility continued to be poor. Tribal women still rarely access Reproductive and Child Health (RCH) and Sexual Reproductive Health (SRH) care services including contraception, sexual health care including HIV/AIDS related IEC/BCC services. The most vulnerable women who are trying to reach out for the government aid won't be able to get it.

The establishment of Village Health, Sanitation and Nutrition Committee (VHSNC) is one of the key elements of the NRHM which takes collective actions on tribal health and its social determinants at the grass-route levels. The mobile health clinics providing basic health care services to tribal population in these underserved areas. The tribal women were aware of maternal schemes viz., *Janani Suraksha Yojana* (JSY), *Thai Bhagya*, *Madilu Kit* and the entitlements. However, the delay was reported in *JSY* payments and *Madilu Kit* distribution was reported. Lack of women specialist doctors, senior and junior health assistants, male/female health workers, ANMs, LHVs (Lady Health Visitors), ASHAs are another important aspects of access to health care services as far as tribal women are concerned. Hence, the government should make efforts to increase the number of women doctors, senior and gynec specialists in tribal area and further strengthen national programmes in PVTGs areas by adopting appropriate strategies and improved program monitoring and evaluation system.

Child Immunization:

Immunization prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis, pneumonia, polio, rotavirus diarrhoea, rubella and tetanus. In Karnataka, the full immunization coverage among children age between 12-23 months was recorded 62.6 per cent. It is interesting to note that full immunization among the same age-group of children was registered higher in rural (64.8 per cent) area than the 59.8 per cent in urban areas (NFHS-4, 2015-16). This is also due to the effective implementation of NRHM programs coverage in tribal dominated rural areas. Reports also highlighted that at least 6 out of 10 children have received full immunization in the tribal area.

Development Indices - HDI and GDI:

Though the Human Development Index (HDI) and gender related development Index (GDI) are not comprehensive and do not cover all aspects of human development they serve to highlight disparities existed within the population as well as the consequences of gender discrimination. The H. D. Kote Taluk of Mysore District stands as 7^{th} out of the 29 districts in the state in terms of income, but was 14^{th} in the HDI as per district HDI of Karnataka (2009). It is to be noted that Dakshina Kannada District has, in terms of the HDI, very high literacy and health indicators. However, nobody is paying attention to the state of Koraga community. The GDI measures the overall achievements of women and men in three dimensions of the HDI life expectancy, educational attainment and adjusted real income and takes note of inequalities in development of the two sexes.

Life Expectancy:

Life Expectancy at Birth (LEB) is an important indicator to measure the health status of any country and community, including tribal, as it is the proxy for overall health condition/status and availability of the health care facilities for the people in a country. As per census 2011, the LEB is 67.2 years in Karnataka State which is above the national 65.2 average. However, the average life expectancy at birth among STs is lower than the state average. Although the figures were comparable to the rural non-tribal population of Karnataka, they were far below the state average life expectancy at birth of 67.2 years.

Health Infrastructure in Tribal Areas:

It is all well accepted fact that (in spite of rigorous efforts by the government) most of the tribal areas suffer from the perilous atmosphere and awful living situations. The extreme poverty, illiteracy, nutritional deficiency, unsafe drinking water and unsanitary conditions, poor maternal and child health care services are the crucial characteristics of the tribal area, making the tribal habitats the first victim of epidemics. Adding to this, another fact is that the majority of the tribal population is with limited resources that they spend chiefly on food, clothing and shelter. They have no money left to spend on health and are fighting a constant battle for survival and health.

Various research and data available through surveys have found that infrastructure like Sub-Centres, Community Health Centres (CHCs), Primary Health Centre (PHCs) and others are less than required in the tribal areas. The health care infrastructure in tribal areas has also been developed as a three-tier system and is based on the following population norms. At present, the norms for Sub-Centre in hilly/tribal/difficult areas is 3000 population, the norm for Primary Health Centre (PHC) is 20,000 population and 1 Community Health Centre (CHC) for 80,000 tribal population, which is lower that than the norms for Plain areas. But given the low density of population and irregular distribution, at times there would not be a PHC within 30 Km radius of a tribal habitat. This is unfavourable to tribal areas because of sparsely distributed population in the mountainous terrains or the traditional habitant of the tribal. Despite lowering of the minimum population norms for setting-up of Sub-Centers, PHCs and CHCs in tribal areas and also the continuous efforts of the GoI and the State Governments, the Rural Health Survey Bulletin, published by MoHFW in April 2018 and depicting data till March 2018, shows that there is still a lot of shortfall in the rural, particularly in the tribal areas.

The provision and access to health care facilities is a critical and crucial factor in effective health treatment of tribal people in rural areas of Karnataka. Many times they are administered by absence of all weather roads, lack of health care facility, lack of health personnel/s and Social barriers preventing the utilization of available modern public health care services by the PVTGs. The absence of auxiliary nurse midwife (ANM) and male multi-purpose workers (MMPWs) makes the situation very critical in tribal areas. Even where they are present, their contribution to the disease prevention and control and disease surveillance is very negligible.

Table 5: Average Rural Population covered by SCs, PHCs and CHCs in Karnataka

(As on 31st March, 2018)

State	Average Rural Population [Census 2011] covered by a-		
	Sub-Centre	PHC	CHC
Karnataka	3968	15,884	1,81,890

(Source: *Rural Health Statistics, GOI, 2018)*

Table 6: Number of Sub-Centres, PHCs and CHCs in Tribal Areas

(As on 31st March, 2018)

	Tribal Population in Rural Areas	Sub-Centres			PHCs			CHCs		
		R	P	S	R	P	S	R	P	S
Karnataka	3429791	1143	321	822	171	64	107	42	7	35
India	93819162	31257	28091	5935	4675	3971	1187	1156	1017	275

Note: R: Required; P: In Position; S: Shortfall;
(Source: *Rural Health Statistics, GOI, 2018)*

Table 7: Building Position for Sub-Centres, PHCs & CHCs in Tribal Areas of Karnataka

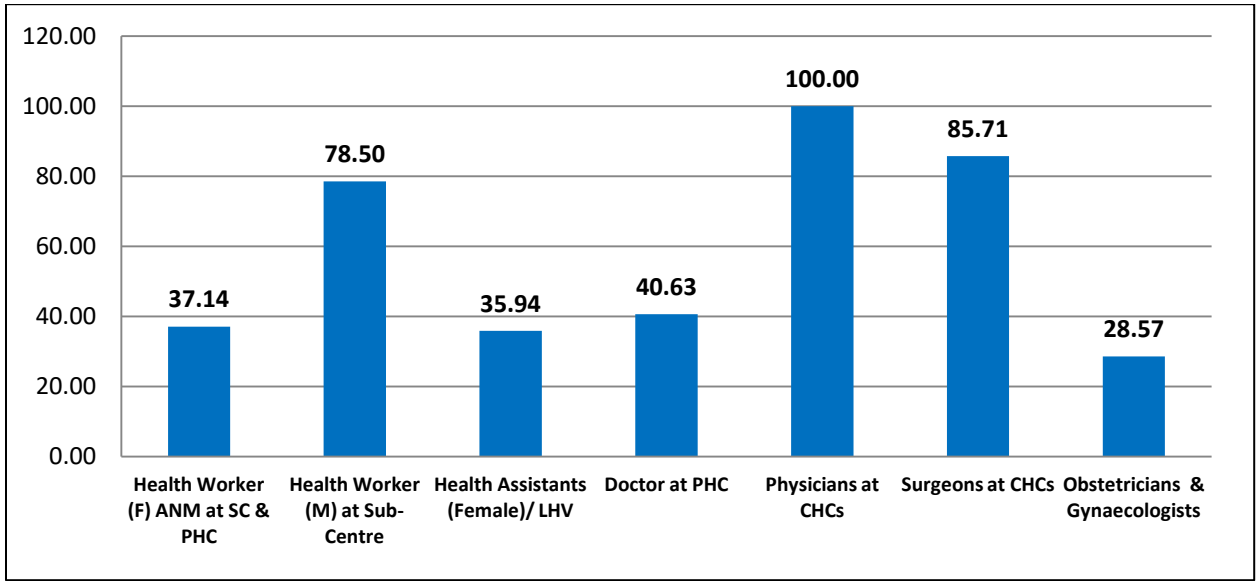
(As on 31st March, 2018)

	Total Number of SC, PHC & CHCs functioning	Health centre functioning in			Buildings Under Construction	Buildings Required[1] to be Constructed
		Govt. Buildings	Rented Buildings	Rent Free Panchayat/ Vol. Society Buildings		
SC	321	245	76	0	0	76
PHC	64	62	2	0	7	**
CHC	7	7	0	0	0	0

*Note: 1 Required Number = Total functioning - (Govt.Buildings + Under construction) (**ignoring excess)*
(Source: *Rural Health Statistics, GOI, 2018)*

Figure 1: Percentage of Shortfall of Health Professions as Compared to Requirement at SCs, PHCs and CHCs in Tribal Areas of Karnataka

(As on 31st March, 2018)

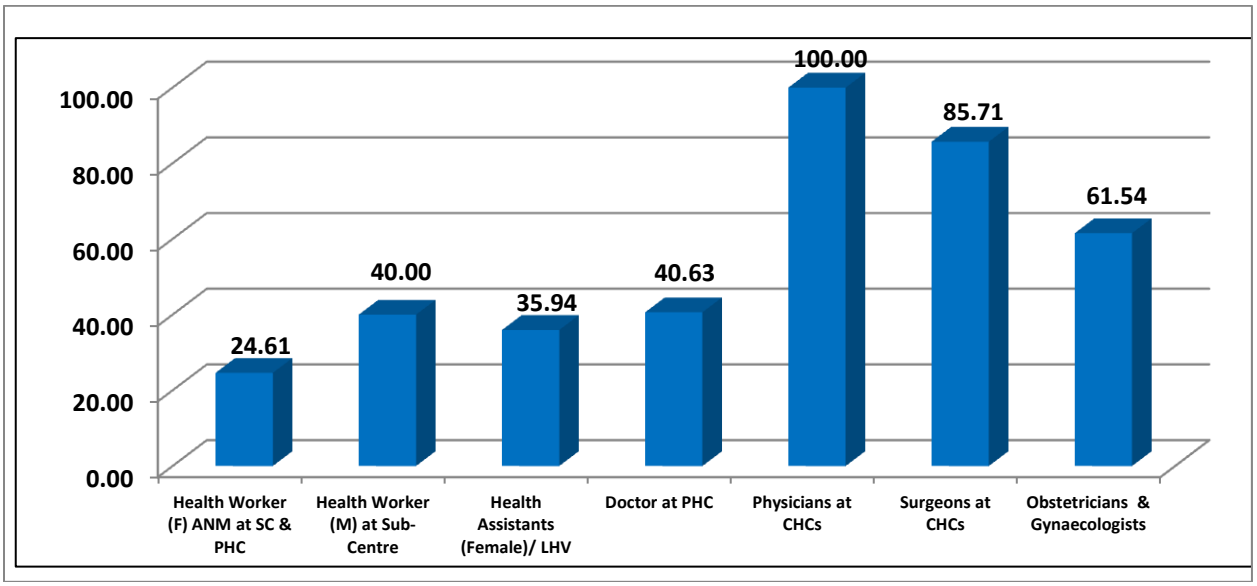


(Source: *Rural Health Statistics, GOI, 2018)*

From the above figure it is found that there is a shortfall of 100 per cent Physicians, 85.71 per cent surgeons and 28.57 per cent Obstetricians and Gynaecologists at CHCs. The availability of doctors at Phcs in the tribal areas is of great significance, however, as the above data indicating 40 per cent shortfall for doctors in PHCs, 37.14 per cent Female Health workers, ANM at Sub-Centre and PHCs in the tribal areas. This shortfall of health care professionals is partially responsible for the low access to public health care services on hand and high levels of private health expenditure on the other.

Figure 2: Percentage of Vacancy Position of Manpower as Compared to Sanctioned Posts at SC, PHC and CHCs in Tribal Areas of Karnataka

(As on 31st March, 2018)



(Source: *Rural Health Statistics, GOI, 2018)*

Discriminatory Behaviour of Health Care Providers:
There are deep-rooted cultural chasms between tribal groups and the largely non-tribal health care providers, resulting in insensitive, dismissive and discriminatory behaviour on the part of health care personnel. The discriminatory behaviour of health care providers towards poor tribal groups, corruption, level of community participation, power domination and political economy of the state are major influencing factors in failure of programmes. Hence, the government should strengthen the gap existed in Public Private Partnership (PPP) model and provide better health care facilities for tribal groups.

Financial Concerns:
The government has been spending resources for the provision of health and medical care services, but there is still a large demand-supply gap accompanied by problem of inequitable access to health care facilities and a virtual absence of low-cost risk pooling mechanisms for the poor vulnerable tribal groups. As most rural tribal populations live below the poverty line, the lack of funds influences how much and what type of health care they receive, and determine whether households are able to maintain their living standards when one of their members falls ill. Poor tribal people often have to borrow money, mortgage, land or animals, or pawn jewellery to meet medical expenses or else let the sick person die. Health is widely linked with development. A rapid and equitable economic development is a good health input and an adequate and equitable health care system stimulates development with improving human productivity. This is the reason; why the investment in health is, sometimes, called an investment in human capital. Health care is one of the most important of all human endeavours to improve the quality of life, especially of the tribal people (Balgir, 1997; 2005a).

Role of NGO's in Tribal Health:
In Karnataka, Non-Government Organizations (NGO's) have 'adopted' tribal villages and are adopted PHCs in tribal areas to provide health care services and education. The Swami Vivekananda Youth Movement (SVYM) is operational for past two decades in H.D. Kote Taluk primarily focusing on health sector. It has constructed a big hospital in the Taluk and also has the mobile health clinic facility reaching to the remote corners of the villages in the Taluk. SVYM is instrumental in providing health care services to this vulnerable tribal community.

Conclusion:-

The *Adivasi*or tribal communities in general and particularly vulnerable tribal groups (PVTGs) in particular are socio-economically and politically very backward compared to mainstream population. In Karnataka, the Jenu Kuruba and Koraga are the most backward, vulnerable, marginalized and disadvantaged indigenous ethnic groups. Anthropological and ethnographic literature focus less with regards to health status of these PVTGs are concerned.

In recent decades, the level of awareness increased among the PVTGs and they have recognized their rights and responding to socio-cultural, health change and development initiatives taken by the governments. Emerging standards provide them some extent of protection and security from oppression and exploitation. However, they are still far away from the point of full realization of their culture, socio-economic and health perceptions. Innovative, culture sensitive and collaborative approaches would be adopted for meeting the health needs of these groups. Improving the quality of life in tribal areas in general and health in particular is important due to persistent disease burden faced by the tribal community. In addition to providing health care service, schooling and awareness would solve most of the health related problems of the PVTGs. Scaling-up of efforts to improve their housing, sanitation, employment, access to health care and better road transport facilities ultimately leading to improve the quality of life in tribal areas. Although considerable progress made by PVTGs in terms of various achievements enumerated is a matter of satisfaction, yet lot more actions has to be carried out with more focus on the various unresolved issues like poverty, illiteracy, livelihood and migration, lack of safe drinking water and sanitation facility, lack of health care facilities, all-weather roads and affordable transportation,discrimination and exploitation are crucial to address and raise the status of PVTGs on par with the rest of the population.

The government should concentrate on quality care for pregnant women and make the benefits available to every woman who reaches a public health care centre. Nutrition programs of Anganwadi Centre should proactively focus on the nutritional inputs of all intended beneficiaries, i.e. children, especially undernourished children, pregnant and lactating women and the adolescent girls. There is a dire need to address the needs of the PVTGs like infrastructures, eliminating poverty, increase literacy rate, ensure quality health care services, enhancing food security, reduction of malnutrition, people's participation and to address the plight of tribal population by understanding the issues meaningfully through holistic approaches to bring change and development of these primitive tribes.

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